



**COLONY OF SEYCHELLES**

**ANNUAL REPORT**

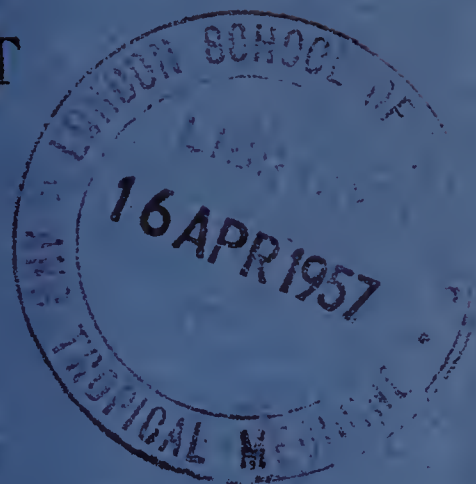
**OF THE**

**MEDICAL AND HEALTH**

**DEPARTMENT**

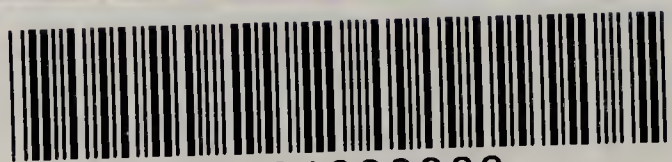
**FOR THE YEAR**

**1954**



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Printed by the Government Printer  
At the Government Printing Office,  
Victoria—Mahé, Seychelles.



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1954

# Annual Report of the Medical and Health Department For the year 1954

## SECTION I

### A d m i n i s t r a t i o n

#### A Staff

i. The following staff changes and postings took place during the year 1954.

1. Dr. D. Kopel the V. D. Medical Officer arrived on 10th January and assumed duty the same day.
2. Dr. J. Taylor O.B.E. the Director of Medical Services left the Colony on 15th March on termination of his tour.
3. Dr. P. M. Joseph M.B.E. was appointed acting Director of Medical Services on 16th March and was later confirmed in that post.
4. Dr. R.S. Francis arrived and assumed duty as Medical Officer on 27th June.
5. Dr. A. G. Penrose arrived on his first appointment in the Colonial Service as Medical Officer on the 18th August.
6. Dr. E. R. Simpson Medical Officer (surgeon) left on leave prior to transfer on 23.8.54.
7. Dr. K. K. Kapadia left on 5.10.54 to appear for the D. T. M. & H. examination London.
8. Dr. D. Tavarria arrived and assumed duty as Medical Officer on 5.12.54.
9. Sister Patrick Connel left the Colony on sick leave on 5th October.
10. Mr. H. Barallon the Senior Health Inspector left on vacation leave on 26.8.54 and after his return to the Colony assumed duty on 1.12.54.

ii. The establishment of Senior Medical Staff in 1954 was as follows : —

- |   |                              |
|---|------------------------------|
| 1 | Director of Medical Services |
| 6 | Medical Officers             |
| 1 | V. D. Medical Officer        |
| 2 | Dental Surgeons              |
| 1 | Matron Seychelles Hospital   |
| 1 | Sister Tutor                 |
| 2 | Hospital Sisters             |
| 1 | Senior Health Inspector      |
| 1 | Laboratory Technician        |

iii. The establishment of Medical Officers was short by one M. O. throughout the whole year and the second vacancy was filled by Dr. Tavarria only in December. Under the circumstances, the timely and gratuitous service rendered by Dr. Stevenson-Delhomme in the outpatient clinic of the Seychelles Hospital during the mornings on 2 days in the week throughout the year was most helpful and is much appreciated. The Sister Tutor having been appointed as the Matron her duties were carried out by a temporary Sister appointed locally.



iv. It is very gratifying to record that on the occasion of Her Majesty's Birthday Dr. James Taylor the former D. M. S. was awarded the honour of the Officer of the Most Excellent Order of the British Empire in recognition of his meritorious work in connection with the development of public health in this Colony.

### *B Legislation.*

During the year no Ordinance of a Medical or Sanitary nature was enacted. The following is the list of subsidiary legislation made during the year.

- (a) The North Mahe Local Board (Washing Limit) Regulations 1954 — fixing limit in Beolier river. This required approval of the Health authorities and the Regulations were approved by the Governor in Executive Council on 21.1.54.
- (b) The Declaration of Infected area Order, 1954 made on 3.1.54 declaring the Island of Praslin to be infected for the purpose of the Animals (Diseases and Importation) Ordinance, 1950, and the one made on 1.3.54 revoking the above Order.
- (c) The Anse Boileau Cemetery Regulations, 1954 approved by the Governor in Executive Council on 4.5.54 creating a cemetery at Anse Boileau.
- (d) The Order made on 31.5.54 repealing the Defence (Restriction of Slaughtering and Sale of Cattle) Order No. 30 of 1642.
- (e) Proclamation No. 30 of 1954 prohibiting the slaughtering of animals in the District of Baie Ste Anne Praslin except at the Slaughter house.
- (f) Regulations made on 16.9.54 providing the modes of and rates for the disinsectisation of vessels.
- (g) The South Mahe Local Board (Washing Limit) (Amendment) Regulations, 1954 approved by the Governor in Executive Council on 25.11.54 altering the washing limit in the river at Val d'Andore.

### *C Financial*

The table given below shows the revenue and expenditure of the Medical and Health Department during the year 1954. For the purpose of comparison the figures for 1953 and 1952 are also shown. All figures are in Rupees.

	1954	1953	1952
Revenue	98,447	74,963	63,390
Estimated Expenditure	603,113	601,375	628,486
Actual Expenditure	613,534	568,588	648,269
Total Expenditure for			
the Colony	3,725,454	4,613,119	5,180,619
Medical expenditure per head			
of the population	15.06	15.01	17.70

### *D Stores*

The Central Medical Store is attached to the Seychelles Hospital which is the Headquarters Hospital for the Colony. Drugs and medical equipments are issued monthly to the district hospitals and clinics.



Stocks of drugs and other hospital requisites continued to be held on the basis of six months supply in most items, and some in larger amounts. Due to the isolated position of this Colony and to the difficulty in transport facilities it is inevitable that our stock of certain items should get exhausted occasionally. During the early part of the year tetanus anti-toxin and certain dental materials were short and had to be ordered from East Africa. Towards the end of the year, due also to the effect of dock strike in U. K., our stock of X-Ray films, Streptomycin, P. A. S. and crystallin penicillin were exhausted.

An emergency supply of drugs and other expendible medical stores is continued to be maintained on the basis of six months supply, the existing stock being 'turned over' when new supplies arrive.

## SECTION II.

### Public Health.

#### 1. *General.*

A Cyclone struck the outlying island of Farquar with some severity on the 19th October this year when its effects were felt with less intensity on the islands of St. Pierre, Astove and Providence. The visiting magistrate, with his staff, was present in Farquhar on that occasion and he reported that of the 26 houses on the island the roofs of six were blown off and several hundreds of coconut trees were destroyed. The intensity of the cyclone lasted for  $4\frac{1}{2}$  hours; then it continued with reduced force for  $14\frac{1}{2}$  hours more, after which there was the calm; and life returned to normal in the space of a few days. Fortunately, of the 84 people who were on the island then, none sustained any injury. At St. Pierre 4 of the lighters which were being used for charging guano were irretrievably lost by the action of the wind. On the other two islands a few hundreds of coconut trees were destroyed. There was no casualty among the inhabitants of any of these islands.

On the whole the general health was good and there was no serious outbreak of any epidemic disease, but sporadic cases of whooping cough were observed in different parts of Mahé during the first half of the year, and in the islands of Praslin and La Digue they occurred sporadically during the second half. Cases of Amoebic dysentery were noticed in different localities. But as there is no strict system of notification for this disease exact incidence cannot be known. But a comparison of the numbers treated this year in the government institutions with those treated in previous years seems to show that there was no material change in its incidence. Following the heavy rains at the end of the year there appeared more frequently than in previous years a type of acute gastro enteritis in many parts of the Colony. The disease attacked small children mostly and adults rarely. Though the symptoms pointed to a type of paratyphoid infection, repeated examinations of stools and vomits failed to show any Salmonella group of bacillus. By persistent examination it was possible to isolate a bacillus of the dysentery group viz B. Dysenteriae Schmitz type. Whether the disease was due to this organism or to some irritants in the water, which was often coloured brownish after heavy rains, is still open to doubt. Nevertheless saline infusions together with sulphaguanidine orally were remarkably effective in curing the condition rapidly, whenever the treatment was started early enough.



## 2. Venereal Diseases.

As reported last year, 1953 was the first completed year in which notification and compulsory treatment of cases had the sanction of law, and the figures from then on can be expected to be reasonably accurate. 1954 is the second year having the same facilities and a comparison of the incidence of the of the different V. D. shown in the following table will give an idea of the effect of the anti-V. D. scheme and of the actual situation.

TABLE I.

Disease	1st quarter		2nd quarter		3rd quarter		4th quarter		Total	
	1953	1954	1953	1954	1953	1954	1953	1954	1953	1954
Syphilis										
Primary	17	Nil	8	Nil	2	Nil	2	Nil	29	Nil
Secondary	9	Nil	5	Nil	1	Nil	1	Nil	16	Nil
* Latent &										
Tertiary	33	64	60	65	54	83	31	29	178	243
Congenital	Nil	8	2	4	1	3	1	1	4	16
Gonor-										
rhoea	285	269	166	194	210	242	320	274	83	979
Chancroid	Nil	4	10	3	7	Nil	8	16	25	23

\* Latent and tertiary syphilis cases were diagnosed mostly by serological (K. R.) tests only and very few among them ever showed any clinical manifestation of the disease.

From this table it is clear that no case of syphilis of the infectious stage was noticed during the year and so the eradication of syphilis from this colony is well on the way though one still finds occasionally a few cases of congenital syphilis, the total for 1954 being only 16.

The following table shows the percentage of positive K. R. found among the 6,240 K. R. reactions performed in the Hospital Laboratory during 1954 and the corresponding percentage in previous years.

Year	Number done	Percentage
1950	4,774	38.07
1951	4,911	23.00
1952	5,618	20.68
1953	6,228	18.10
1954	6,240	21.05

It must not be forgotten that several of the positives are repeat cases who have already had the complete course of anti syphilitic treatment.

But syphilis is only second in importance in this colony the prevalent V. D. being Gonorrhoea.

During the year to intensify the control of gonorrhoea it was made a routine that all contacts of notified cases whether they were confirmed by the laboratory tests or not, were given the routine treatment for the cure of gonorrhoea. The following table shows the number treated among both sexes during each quarter and the total for the year.



TABLE II.

1st quarter	2nd quarter	3rd quarter	4th quarter	Total
M. F.	M. F.	M. F.	M. F.	M. F.
27 122	61 175	100 170	80 266	263 733

Besides, women in the town area with a history or repeated G. C. infection were encouraged, sometimes without success, to come for regular treatments. Even with these additional efforts, the incidence of the disease remains nearly the same as in 1953. A detailed report on the work of the V. D. scheme during the year by the V. D. Medical Officer is appended in appendix A.

### 3. *Intestinal Infestation.*

The infestation rates with intestinal parasites continue to be high though regular mass treatment is carried out both in the hospitals and clinics and also in other centres of population in the villages. The following table shows the number of stools found positive in the Seychelles Hospital Laboratory where 5663 stools were examined during 1954. A comparative infestation rates for 3 previous years are also shown.

	% of the total found positive.			
Parasite	1954	1953	1952	1951
Entamaeba Hystolitica	6.4%	7.9%	9.1%	7.4%
Giardia Lamblia	11.5%	11.1%	13.7%	13.3%
Balantidium Coli	1.3%	—	1.1%	1.4%
Ankylostoma	12.9%	11.9%	10.3%	10.1%
Ascaris	40.2%	38.3%	37.5%	38.0%
Trichuris	58.7%	—	—	—
Strongyloids	6.3%			
No parasite seen	21.6%			

Because of its action on several of the helminths found in this Colony Ol. Chenopodium is still being used as the most common vermifuge for mass treatment. On the whole 16,000 treatments were given in the out patient clinics and in the villages.

As was reported in previous years the persistence of these intestinal parasites is due to the primitive nature of the sanitary conveniences in most houses and the ignorance of the majority of the people regarding elementary sanitation and ordinary rules of health. To combat this, advice and assistance have been sought from the World Health Organisation. The supplementary agreement for the provision of Technical Advisory Assistance by the Organization was finally signed on the 14th July this year. By this the Organization has agreed to assist the Government for the improvement of Environmental Sanitation with particular reference: —

- (a) Public health education
- (b) The method of control of the prevalent intestinal diseases.
- (c) Training of local auxiliary personnel in the field of sanitation, public health nursing, and maternal and child health.
- (c) Public health legislation.

The Public Health Sanitarian being the first member of the W. H. O. team to arrive reached here towards the end of last year and immediately started training a local staff of 4 Health Inspectors, all of whom passed in the final examination held towards the end of the year. With the

help of the Health Inspectors of the department he has conducted preliminary surveys and collected statistics and thus prepared the way for the other members of the team viz a Public Health Nurse and a Public Health Educator who are expected to arrive early in 1955. Meanwhile the Organization has ordered the first batch of supplies for health education training etc and some of these have already arrived.

#### 4. *Tuberculosis*

It was reported last year that the incidence of this disease appeared to increase. To help to obtain more reliable figures a system of notification was introduced during the year under review, by which all the medical practitioners of the colony were requested to report about all cases of tuberculosis that came under their observation. Because it has no legal backing the figures cannot be considered thoroughly accurate. Nevertheless they can be expected to represent a truer picture than hitherto.

The following table shows the number of cases who are notified during the year. A comparison is also made with cases who came for treatment in previous 3 years.

Type of cases	Cases.			
	1954	1953	1952	1951
Pulmonary	93	128	83	86
Non-pulmonary	13	17	17	18
Total	106	145	100	104

Type of cases	Deaths.			
	1954	1953	1952	1951
Pulmonary	34	26	35	40
Non-pulmonary	4	5	2	2
Total	38	31	37	42

#### *Housing :*

The housing survey started last year by the Health Inspectors under the direction of the Public Health Sanitarian of the W. H. O. was continued this year. The finding of last year viz the housing conditions are not satisfactory except in a small proportion of cases was again confirmed by the survey of over 300 houses conducted this year. The following additional facts have come to light on an analysis of the information collected during the survey.

- (a) 72% of the houses are classified as poor.
- (b) 25% of the families live in overcrowded conditions.
- (c) 50% of the houses lack permanent means of ventilation.
- (d) Nearly 36% of the family units pay a monthly rent of less than Rs. 10 whilst many more live in free houses which are either owner-occupied, owned by the members of the family or occupied by virtue of employment.
- (e) 88% of the pit latrines are classified as poor, whilst 94% of the buckets are given a similar classification.
- (f) At least 33% of the people still draw their drinking water direct from streams.



Such conditions can only tend to increase the incidence of both intestinal infestations and tuberculosis, and treatment of these diseases without simultaneous preventive measures, as proper housing and rise in the standard of living, cannot be expected to produce much useful results.

#### 5. *Leprosy.*

4 new cases were discovered this year compared with 2 cases in 1953. Being infectious and having no facilities for home isolation, all the cases were admitted into the Curieuse Leprosy Settlement. Detailed report on the Curieuse Settlement will be found under Section III of this report.

#### 6. *Other communicable diseases treated in Government Institutions.*

i. <i>Enteric fever</i>	None
ii. <i>Diphtheria</i>	1 against nil in 1953
iii. <i>Whooping cough</i>	372 against 252 in 1953
iv. <i>Tetanus</i>	7 against 5 in 1953
v. <i>Amæbic dysentery</i>	416 against 454 in 1953
vi. <i>Malaria (imported)</i>	2 against 1 in 1953
vii. <i>Chickenpox</i>	9 against 8 in 1953
viii. <i>Measles</i>	2 against 1 in 1953
ix. <i>Influenza</i>	512 against 564 in 1953
x. <i>Diarrhœa &amp; enteritis</i>	841 against 673 in 1953.

#### 7. *Vaccinations and Inoculations.*

The following table shows the number of vaccinations and inoculations carried out this year and the 2 preceding years :—

	1954	1953	1952
Smallpox vaccination	2167	4617	1883
Yellow Fever inoculation	332	333	351
T. A. B. inoculation	13	48	23
Cholera inoculation	63	75	47
Tetanus immunisation	104	3	45

The increase in vaccinations in 1953 is due to the effect of an intensive vaccination campaign conducted in that year. This year an attempt was also made to immunise all the labourers of the Agricultural department against Tetanus.

#### 8. *Hygiene and Sanitation.*

There is no change in the Health Department Staff except that one of the probationers resigned during the course of the year and was replaced by another. With the assistance of the W. H. O. Public Health Sanitarian, the department distributed several hundreds of leaflets to the town and country house owners advising them about personal hygiene and fly proofing of their latrines. As a result well over 500 latrines were fly-proofed and 600 others were repaired. The W. H. O. Sanitarian gave a course of 4 lectures on sanitation to nearly 100 school teachers. Meanwhile, experiments were being carried out in an attempt to find out a suitable and cheap alternative to the pit latrine. In localities with plentiful water supply — the aqua privy — was considered most suitable and 4 such latrines have already been constructed, 3 having been constructed by Government and the other by a private individual. Other private owners have also agreed to construct aqua privies.



The routine medical examination including blood and stool examination of all people employed in the preparation or sale of food and drink was intensified. Thus, cooks, hotel and restaurant workers, butchers, bakers, hawkers, butlers etc were examined. This year some 584 stool specimens from such persons were examined.

Since some years the Victoria District Council which is responsible for the disposal of town excreta was approached to buy enough buckets to operate a "double bucket" system of excreta collection.

Financial difficulties delayed the project but it is gratifying to report that this year orders were placed for sufficient numbers of buckets, and the double-bucket system will come into operation in the near future.

The work done by the sanitary section of the department during the year is shown belows :—

i. *Inspection of premises :—*

Dwelling	9951
Bakehouses	353
Shops	274
Schools	116
Restaurants and Buvettes	107
Butchery shops	149
Bottling establishments	12
Hotels	15
Total	1077

ii. *Latrines Inspections :—*

Latrines inspected	6435
In sanitary condition	4354
In insanitary condition	2081

iii. *Abatement of Nuisances :—*

Nuisance orders issued	
(a) Removal of pigs or provision of styres	37
(b) Removal of pigs	17
(c) Insanitary latrines	152
(d) Repair of latrines	185
(e) Absence of latrines	33
(f) Accumulation of garbage	11
(g) Accumulation of water	19

iv. *Anti mosquito work.*

During the inspections of premises presence of mosquito in and about the dwelling houses was looked for as a routine. In addition 3469 inspections were made specially to discover mosquito larvae or other indication of mosquito breeding.

*Aedes Aegypti* index as noted by these inspections was 1%.

v. *Inspection of meat.*

The special training received by the Health Inspectors from the W. H. O. Sanitarian permitted them to give closer attention to meat inspection this year. A species of worms which has for some years been found in and around the kidneys of pigs was identified as *Stephanurus Dentatus*. An investigation into the incidence of the infection among



pigs showed the surprising fact that the incidence is as frequent among pigs kept in properly constructed and cement floored styers as among those bred without proper styers. The infection noticed was not very heavy and in every case the infected kidney and surrounding tissues alone were ordered to be destroyed.

Three cows belonging to the Agricultural Department's herd were found to be infected with tuberculosis and on this department's recommendation all the 3 animals were destroyed.

The table below shows the number of animals slaughtered in the Victoria and Country slaughter houses and which were inspected by the Health Inspectors during the year :—

Animals	Victoria	Country	Total
Cattle	204	246	450
Pigs	477	1031	1508
Turtles	163	15	178
Total	844	1292	2136

### 9. Port Health.

As this Colony is free from all the five quarantinable diseases, strict vigilance is being kept to prevent the possibility of introduction of any of these diseases, particularly smallpox and cholera from India and yellow fever from East Africa. Thus it is essential for all passengers coming from Bombay to have valid certificates of vaccination against smallpox and cholera and those from East African Ports, against smallpox and yellow fever. Any person not possessing valid certificates is placed in quarantine in the Long Island Quarantine Station; and during the year 4 persons from East Africa were isolated in the mosquito-proof house of the Quarantine Station for 3 days owing to their inability to show valid yellow fever inoculation certificates.

Further, to maintain the existing freedom from malaria which this Colony is enjoying, every effort is being made to prevent the introduction of malarial mosquitoes into this colony. For this purpose all boats including small schooners calling here from any port outside this colony are compelled to anchor about 2 miles from the shore. Fortunately, the ocean-going liners are obliged to stay out owing to the shallowness of the water. The small schooners are permitted to come nearer only after they are thoroughly examined for mosquito larvae and the boats disinfected to the satisfaction of the health authorities.

In 1954, 79 vessels called at this port, including 2 H. M. Ships, 1 French naval ship and 1 Indian naval ship. Of these 17 were disinfected and then permitted to enter the inner harbour the rest remained in the outer harbour. The ports from which the ships called here as well as their nationalities are given below :—

Ports :—	Mombasa	27 ships
	Bombay	9 ships
	Aden	4 ships
	Madagascar	4 ships
	Dar-es-salaam	3 ships
	Tanga	2 ships
	Singapore	7 ships
	Colombo	1 ship
	Bangkok	1 ship
	Port-Swettenham	3 ships

Ports :—	Berbeira	2 ships
	Cape Lown	1 ship
	Diego Garcia	1 ship
	Cechin	1 ship
	Barhein	1 ship
	Djibouti	1 ship
	Belawan Deli	4 ships
	Marmagoa	1 ship
	Agalega	2 ships.

## Nationalities :—

British	52 ships
French	3 ships
Dutch	16 ships
Norwegian	1 ship
Panamanian	1 ship
Indian	2 ships

No aircraft called at this port during the year.

10. *Legal Proceedings.*

Of the 9 cases which were awaiting hearing in court on 31st December 1954 one was fined and 8 were dismissed. During the year one case was prosecuted for infringement of public health laws and was fined Rs. 20.00. On 31.12.54 there were no cases awaiting hearing by court.

11. *Vital Statistics.*

1. Estimated population at mid year (30th June 1954)	38,638
Total deaths	456
Death rate per 1000	11.8
Total births	1,206
Birth rate per 1000	31.2
Total deaths under 1 year	62
Infantile mortality	51.41

2. The table below shows the birth, death and infantile mortality for the last 10 years :

<i>Year</i>	<i>Birth rate</i>	<i>Death rate</i>	<i>Infant mortality</i>
1945	25.42	10.89	62.86
1946	28.42	11.32	59.80
1947	27.10	10.20	80.12
1948	28.60	13.70	89.00
1949	29.20	12.10	70.53
1950	29.80	11.70	60.00
1951	28.30	11.60	50.30
1952	28.00	12.10	51.10
1953	31.3	11.6	54.00
1954	31.2	11.8	51.41

12. *School Medical Service.*

Because no school inspection was conducted last year, a programme of complete and comprehensive medical inspection of schools was organised during the year. But owing to the shortage of medical officers out of a total of 32 schools only 24 could be examined before the end of



the year. Arrangements are however made for the examination of the remaining schools early in 1955. Besides since 1950 no dental examination of the school children of the islands of Praslin and La Digue had been carried out. So a complete dental examination of all the school children of these islands was conducted during the year.

All children found to require treatment by the medical officers were asked to report to the nearest clinic for appropriate treatment. The dental cases among school children of Praslin and La Digue were treated by the Dental Surgeon at the clinics of Grand'Anse, Bay Ste. Anne and La Digue before he returned to Mahe.

The following table shows the number of children on the rolls of the schools examined, the number present for the examination and the percentage of the various conditions noticed among the children examined.

Total number of school children on the rolls	2544	
Total number of school children examined	2155	
Conditions found	Number	% of total
Lack of cleanliness	192	9%
Deficient nutrition & development	30	1.4%
Defective & carious teeth	370	17.3%
Intestinal parasites	858	40 %
Tonsils & adenoids	62	3 %
Diseases of respiratory system	45	2 %
Diseases of Circulatory system	3	6.1%
Diseases of Nervous system	5	0.2%
Diseases of eye	15	0.7%
Diseases of skin	61	3 %
Anaemia	217	10.3%

### 13. Dental Service

This is the first whole year when there were two government dental surgeons on the staff. Owing to shortage of equipment and materials they were not able to perform as many special surgical procedures as they could have done.

The following is a summary of the dental work carried out during the year.

#### *School dental Services : —*

	Extractions	Dressings	Fillings	Scalings
Pre School age group	417	93	70	—
Schools	977	262	523	14

#### *Special cases : —*

- 20 General anaesthetic cases
- 14 Surgical extractions
- 3 Eruption cysts incised
- 1 Acute alveolar abscess treated under G. A.
- 2 cases of Vincent's gingivitis
- 1 case of orthodontics
- 1 case of frenectomy
- 2 cases of gingivectomy
- 2 cases of apicectomy

ii. *Praslin and La Digue*

	Patients	Extractions	Dressings	Fillings	Scalings
Praslin	141	79	32	101	3
La Digue	79	45	22	86	

Number of school children examined taken at register strength

Praslin 522 less absentees

La Digue 250 less absentees

Curieuse

Leprosy Settlement 5 patients 7 Extractions

iii. *Anse Royale*

Patients	Extractions	Dressings	Fillings	Scalings
846	2334	68	14	10

Special cases : —

- 6 General Anaesthetic cases
- 21 Surgical extractions
- 2 Socket curettages
- 2 Cases of Vincent's gingivitis
- 2 Cases of alveolectomy operations
- 1 Mandibular abscess
- 1 Gingivectomy
- Paradontal curettage and lowers gingivectomy excision of papilioma on cheek mucosa

Addendum (Under fracture)

Fracture of labial wall of pre-maxilla and inspection into nose (due to road accident) operated on and treated.

*Public Dental Service.*

	Extractions	Dressings	Fillings	Scalings
Pauper	1656	36	17	5
Government	915	110	463	63
Paying	1162	110	776	120

Special cases : — Some treated as hospital inmates.

- 3 cases of fracture of mandible
- 133 surgical extractions
- 30 abscesses incised and treated
- 26 alveolectomy operations
- 2 cases of Vincent's gingivitis
- 3 excisions of tumour and bone
- 2 cases of sequestrum removed from tooth socket
- 2 apicectomy operations
- 5 Socket curettage
- 1 Odontoma removed
- Caldwel Luc operation on right maxillary sinus and nasal antrostomy
- One case of fracture of neck of left condyle, abscess in cheek incised and drained
- 2 acrylic post crown
- 4 acrylic crown facing
- 44 dentures repaired
- 63 new dentures
- Number of patients seen — 5,888



## SECTION III.

*Hospitals and Dispensaries*

The principal hospital of the colony is the Seychelles Hospital situated in Port Victoria. The majority of the sick are treated in this hospital either as in-patients or as out patients. Seychelles hospital has a fully equipped Laboratory, a small portable X — Ray plant and also Dental, Ophthalmic and Dermatology clinics. Smaller hospitals exist at Anse Royale Mahe, Bay Ste Anne Praslin and at La Digue. Serious cases which cannot be properly treated in these hospitals are referred to the Seychelles Hospital for investigation and treatment. There is motor ambulance at Anse Royale and a motor boat at Praslin for the transport of patients.

2. Outpatient clinics are held in all the hospitals and in addition there are clinics at Grand Anse, Praslin, and Beolier Mahe. Another weekly clinic is held at Takamaka, South Mahe, by a Senior Nurse.

3. The following table indicates the number of patients treated in the various institutions during the year 1954.

Hospital or Clinic	Beds	Inpatients	Outpatients
Seychelles Hospital	110	3,484	24,677
Bay Ste. Anne Hospital	26	474	2,141
La Digue Hospital	8	120	1,987
Anse Royale Hospital	8	174	8,443
Beolier Clinic	2	40	3,210
Grand Anse Praslin			2,022
Takamaka			171
Total	154	4,292	52,551
Total 1953		4,822	54,916

4. This year there is a slight reduction in both inpatients and outpatients, though the figures are still higher than those for 1952. On an average every member of the population attended 1.38 times at an outpatient clinic, while approximately 11.1% of the population received inpatient treatment in one of the hospitals.

*Surgical.*

1,206 surgical operations were performed in the Seychelles Hospital. Of these 245 were major and 961 minor; while of the major operations 71 were emergency and 191 were elective or "cold cases". The following is the list of major operations performed in the Seychelles Hospital theatre during 1954.

Procedure	Elective	Emergency	Total
Appendicectomy	20	22	42
Laparotomy carcinoma of stomach	3	0	3
Laparotomy miscellaneous	7	0	7
Drainage liver abscess	0	2	2
Subtotal Gastrectomy	1	0	1
Perforated duodenal ulcer	0	2	2
Cholecystectomy	1	0	1
Ilco-caecal intussusception	0	4	4
Intussusception transverse colon with carcinoma of colon	0	1	1
Haemorrhoidectomy	3	0	3

Procedure	Elective	Emergency	Total
Inguinal hernia, radical cure	40	7	47
Femoral hernia	2	0	2
Ventral hernia	1	1	2
Classical Caesarian section	0	3	3
Lower segment Caesarian Section	0	4	4
Abdominal hysterectomy	38	3	41
Pelvic floor repair	2	0	2
Ectopic pregnancy	0	3	3
Salpingectomy & Oophorectomy	6	1	7
Radical cure hydrocele	2	0	2
Millin's prostactetomy	1	0	1
Suprapubic cystostomy	3	8	11
Amputation penis (carcinoma)	2	0	2
Drainage of acute osteomyelitis	1	0	1
Compound fracture	0	7	7
Eye operations : Removal of eye	4	0	4
Trephining glaucoma	1	0	1
Repair of lacerated eye	0	1	1
Subtotal thyroidectomy	3	0	3
Dissection of tonsils and adenoids	7	0	7
Radical mastectomy for carcinoma	1	0	1
Simple mastactomy for carcinoma			
inoperable	4	0	4
Excision adenoma of breast	2	0	2
Cure of hare lip	1	0	1
Excision of rodent ulcer	1	0	1
Trephine skull for meningeal			
haemorrhage	0	1	1
Miscellaneous	12	1	13
	<hr/> 174	<hr/> 71	<hr/> 245

The minor operations consisted of reduction of fractures, amputation of digits, dilatation of urethra and uterine dilatation and curettage both therapeutic and diagnostic. Diagnostic procedures like cystoscopy and sigmoidoscopy were also included in this group.

*Ophthalmic Clinic*

1. In January this year the specially planned and newly constructed ophthalmic clinic was completed. From then on the twice weekly clinics were conducted in this new block. The availability of a dark room near the refraction room greatly facilitated the different examinations needed for the patients.

2. The various conditions diagnosed and treated in the year are the following :—

### A. *Anomalies of refractions.*

Presbyopia	46	Aphakia	3
Hypermetropia	3	Insuficiency of accommodation	1
Myopia	13	Testing for acuity of vision	
Hypermetropic		without prescription of glaasses	11
astigmatism	28	Heterophoria	5
Myopic astigmatism	22	Squints concomitant	4
Hypermetropia with		Squints paralytic	1
hypermetropic astigmatism	28		
Myopia with myopic			
astigmatism	28		
Mixed astigmatism	6		



*B. Congenital malformation.*

Nystagmus	2	Persistent pupillary membrane	1
Congenital cataract	4		

*C. Injuries*

Injury eye ball	2	F. B. cornea	9
Wounds of conjunctiva	4	Penetrating wound cornea and sclera	1
F. B. conjunctiva	14	Dislocated lens	3
Wound cornea	7	Traumatic cataract	1
Burns of cornea	2	Haemorrhage retins	2

*D Inflammatory*

Blepharitis	4	Granular conjunctivitis	16
Stye	13	Chr. dacryocystitis	2
Chalazion	20	Herpes ophthalmicus	1
Conjunctivitis simple	35	Keratitis Phlyctenular	3
Conjunctivitis mucopurulent	12	Keratitis Rosacea	2
Conjunctivitis purulent	7	Keratitis disciformis	4
Ophthalmia neonatorum	15	Keratitis Interstitial	1
Phlyctenular conjunctivitis	11	Corneal ulcers	5
Chronic conjunctivitis	18	Corneal Opacitis	16
Iridocyclitis	2	Iritis — mostly chronic	23
		Choroiditis all types	13

*E Degenerative*

Pinguecula	10	After cataract	1
Pterygium	4		
Corneal dystrophy	4	Optic atrophy	3
Phthisis bulbi	1	Detachment of the retina	2
Senile cataract mature and immature	13		

*F. Tumours*

Tumours of the eyelids	6	Retinoblastoma	1
Tumours of conjunctiva	5		

*G. Other conditions*

Orbital neuralgia	2	Eye symptoms due to avitaminosis	6
Thrombosis central vein	1	Diplopia due to fracture orbit	1
Glaucoma	4	Vitreous opacities	3
General diseases with eye symptoms	4	Allergic conditions of conjunctiva & lids	6
Amblyopia	2	Headache due to wearing unsuitable glasses	2

3. During the second half of 1954, most of the ordinary instruments ordered for ophthalmic surgery arrived and a start to perform intra ocular surgery was made. The operations performed during this year included cataract extractions, trephining iridectomies and capsulotomies, in addition to operations for chalazia, pterygia, tumours and foreign bodies.

*Dermatological Clinic*

1. Soon after the arrival of Dr. Kopel in January, 1954, a weekly clinic for skin diseases was started in the out patient department of the Seychelles Hospital, and was continued throughout the year. Consultations were given also on other days when required.

2. Cases of scabies and pityriasis versicolor formed the bulk of the patients seen. Disinfestation and treatment of scabies could not be carried out at the clinic due to the difficulty in inducing the patients to submit to it and also to inadequate facilities. Arrangements are being made for the provision of treatment cubicles in the neighbourhood of the clinic. Meanwhile domiciliary treatment was given which was not fully satisfactory due to the carelessness and indolence of the patients and, in the case of children of their parents.

3. A classification of all the main conditions seen at the clinic and their monthly incidence according to sexes, is given in table I.

4. Besides, 729 schoolchildren from Victoria and South Mahe were also examined. The incidence of the various skin diseases noticed among them is shown in table II.

TABLE II

Dermatological conditions found in a survey of schoolchildren in South and Central Mahe in 1954.

	729 children of both sexes	375 boys	354 girls
Impetigo contagiosa	0. 6%	1.6%	0.28%
Keratosi pilari	.27%	—	0. 5%
Pediculosis capiti	27. 2%	19.7%	35. 0%
Pityriasis alba	10. 8%	11.2%	10. 5%
Pityriasis veraicolor	8. 6%	7.4%	9. 8%
Pyoderma	0. 3%	0.8%	—
Scabies	5. 2%	5.9%	4. 7%
Verruce vulgaria	0. 6%	0.8%	0. 5%
Totals	53.57%	47.4%	29.68%

*Mental Hospital*

1. The New Mental Hospital on the Canelles Road which was completed in 1953 could not be occupied because it was felt by the authorities concerned that the wire fencing was inadequate to prevent the escape of those inmates who wanted to do so. A stone wall was therefore commenced and is nearing completion. It is expected that the patients will be moved into the new hospital early next year.

2. The following table shows the number of patients who received treatment in the existing hospital :—

	Male	Female	Total
No. of cases resident on 1.1.54	16	14	30
No. of cases out on trial	1	8	9
Total cases on hospital register	17	22	39
No. of admissions in 1954	1	3	4
No. of admission for those out on trial	—	1	1
Deaths	1	2	3
No. of cases resident on 31.12.54	16	16	32
No. of cases out on trial on 31.12.54	1	7	8
Total No. of patients in hospital register on 31.12.54	17	23	30



# Dermatological Clinic

TABLE I — Analysis of the Total Number of Patients Attending the Dermatological Clinic by Disease, Sex and Month During 1954.

	T = both sexes												M = males		F = females													
	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		T	M	F	
	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M				T
Acanthosis nigricans																										1	1	0
Acne Conglobata																										1	1	0
Acné exoriée des jeunes filles																										1	1	0
Acne necroticans																										1	1	0
Acne vulgaris																										1	1	0
Albinism																										1	1	0
Amyloidosis cutis lichenoides																										1	1	0
Burning tongue																										1	1	0
Callositas																										1	1	0
Campbell de Morgan's spots (Ruby spots)																										1	1	0
Cheilitis exfoliativa																										1	1	0
Common dirt																										1	1	0
Condyloma acuminatum																										1	1	0
Dermatitis cosmetica																										1	1	0
Dermatitis herpetiformis																										1	1	0
Dermatitis papulosa nigra																										1	1	0
Dermatitis seborrhoeica																										1	1	0
Dermatitis solaris																										1	1	0
Dermatitis traumatica																										1	1	0
Dermatitis & Ulcus																										1	1	0
cruris varicosum																										1	1	0
Dermatitis venenata																										1	1	0
Eczema																										1	1	0
Eczema disidroticum																										1	1	0
Eczema infantile																										1	1	0
Eczema mannum																										1	1	0
Epithelioma penis																										1	1	0
Erosio interdigitalis																										1	1	0
blastomycetica																										1	1	0





TABLE I — (Continued)

	T = both sexes		M = males		F = females		July		Aug.		Sept.		Oct.		Nov.		Dec.	
	Jan.	Feb.	Mar.	Apr.	May	June	T	M	F	T	M	F	T	M	F	T	M	F
Lichen chronicus simplex	1	1	0	1	1	0	1											
Lupus erythematosus	1	1	0	1	1	0	1											
discoïdes																		
Miliaria crystallinea					3	2	1						1	0	1			
Miliaria rubra					1	0	1						1	1	0			
Milium																		
Molluscum contagiosum					1	0	1											
Moniliasis cutis																		
Moniliasis unguium																		
Mosaic warts																		
Naevus pigmentosus																		
Neurodermatitis disseminata																		
Onychomycosis																		
Parasitophobia																		
Perléche																		
Pediculosis capitis																		
Phagedaena																		
Phrynoderma																		
Pityriasis alba																		
Pityriasis versicolor	2	1	1	11	4	7	9	5	4	15	9	6	1	0	1	8	9	1
Pruritus axillaris																		
Pruritus helminthogenicus																		
Pruritus scrotis																		
Pruritus senilis																		
Pruritus toxic (procaine)																		
Pruritus vulvae																		
Psoriasis																		
Pulecosis penetrans																		
Puncta prurifica																		
Pyoderma	1	0	1	7	5	2	6	5	1	7	4	3	7	5	2	2	2	0

TABLE I — (Continued)

	T = both sexes				M = males				F = females																														
	Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.																
	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	T	M	F												
Scabies	195		122		30		40		1	1	0		32		38		49		31		48		16		627		0												
Schamberg's disease																	1	1	0						1		0												
Sebaceous cyst																										1	0												
Seborrhoea																										1	0												
Streptococcal fissure																										1	0												
Sycosis barbae																	1	1	0						1		0												
Tinea amiantacea																										1	0												
Tinea circinata																										1	0												
Tinea inguinalis & axillaris																										1	0												
Tinea pedis																										1	0												
Toxicoderma helminthica																										1	0												
Toxicoderma menopausal																										1	0												
Uticaria acuta																										1	0												
Uticaria multiformis																										1	0												
Unguis incarnata																										1	0												
Varicella																										1	0												
Verruca senilis																										1	0												
Verruca vulgaris																										1	0												
Xanthelasma palpebrarum																										1	0												
Xerodermia																										1	0												
Unclassified dermatoses																										1	0												
Totals	10	4	6	251	25	31	162	17	23	84	34	20	101	34	27	76	27	23	71	23	16	73	14	21	84	20	15	66	19	16	95	25	22	42	14	12	1115	256	232



*Curieuse Leprosy Settlement*

1. All infectious cases of leprosy who are unable to provide domiciliary isolation are being admitted into the Curieuse Settlement. All able bodied patients are encouraged to engage in some type of manual work they are interested in, and are remunerated for any work performed. They help the running of the settlement by gardening, fishing, caring for the cattle and pigs, and by collecting cocoanuts. Any minor repairs required in the settlement, are carried out by the inmates.

2. During the year 4 new cases were discovered and they were all admitted into the Settlement. Another patient under home isolation was also admitted into the Settlement.

3. With growing experience we have reached the conclusion that the optimum adult dose of D. A. D. P. S. is 100 mgms twice a day for 6 days in the week. The male nurse in attendance sees that all the patients take the prescribed doses. With this dosage reactions are few and the improvement in their clinical condition is more rapid. With this dosage scheme, together with the effective treatment of concurrent diseases and with a well balanced diet a greater number of patients were rendered bacillus negative.

4. On the whole 16 cases showed negative smears during the year ; of these 4 patients were discharged, as they remained negative for over a year.

5. The following table shows the results of smear examinations of patients in the years 1951 to 1954.

	No. of smears Exd	No. positive	%	No. Negative	%
1951	35	32	91.4	3	8.6
1952	30	20	66.6	10	33.0
1953	25	2	8.0	23	92.0
1954	101	7	7.9	94	93.1

6. The statistics of the patients in the Curieuse settlement is shown below.

	M.	F.	Total
No. of patients resident in the Settlement on 1. 1. 45	25	20	45
No. of patients discharged cured during 1954	3	1	4
No. of deaths during 1954	2	2	4
No. of admissions during 1954	4	1	5
No. of patients in the settlement on 31. 12. 54.	24	18	42

*New constructions and installations, 1954.*

1. Early in the year the dental and ophthalmic clinics started to function in the new building specially constructed for that purpose near the Seychelles Hospital.

2. In the Seychelles Hospital, hot water system was installed in March and a new incinerator started working in November. The new hospital laundry is nearly ready for occupation and the installation of the mechanical lift for the hospital is nearly completed and can be put into service early in 1955.

3. The work on the tuberculosis sanatorium, which began early in the year with the construction of a wide motorable road from the Seychelles Hospital avenue to its site, is progressing satisfactorily.

4. The Nurses quarters, Anse Royale, is nearly completed and the required furnitures have already been made. With some minor works and painting of the building, it will be ready for occupation early in 1955.

5. The construction of the stone wall to enclose the premises of the new mental hospital was commenced towards the middle of the year, it is nearing completion and the new hospital can be occupied early in 1955.



*Training of Local Personnel*

## (a) Nurses and Midwives:

1. The training of Nurses and Midwives continued as in previous years. As Sister William, the qualified Sister Tutor was appointed Matron of the Seychelles Hospital, the duties of the Sister Tutor were carried out throughout the year by Sister Mrs. D. Michel S. R. N.

Besides the Sister Tutor the following doctors and sister assisted in the training of the nurses and midwives: —

Dr. J. Taylor and Dr Hector	Medicine
Dr. P. M. Joseph	Eye Diseases
Dr. E. R. Simhson	Surgery
Dr. D. Kopel	Skin diseases
Dr. K. K, Kapadia, Dr. D. Tavaría & Sister Mary	Midwifery & Gynaecology

3. This year 18 candidates were newly recruited for nursing and they were all examined after an intensive training of 3 months' duration. 9 of them passed and were therefore confirmed as probationer nurses. The failed candidates had their temporary appointments terminated.

4. For the Preliminary examination 12 candidates were trained during the year. They were all examined and only nine passed. One of the failures unfortunately having failed already twice before had to give up nursing in accordance with the regulations of the Nursing Board.

5. The final examination for nursing was taken by 7 candidates of whom 4 were resits. 6 of them passed and the other failed in nursing and surgery. She will have to re-appear for these subjects at the next final examination in April 1955.

6. Midwifery. 6 pupil midwives received training during the year. No final examination was conducted during the year due to the departure on leave of Dr. Kapadia in October and due to the subsequent changes in the M. O. in charge of the maternity department.

7. The number of Nurses on the Seychelles Register  
on 31. 12. 54 = 45

The number of Midwives of the Seychelles Register  
on 31. 12. 54. = 54

## (b) Assistant Health Inspectors.

8. The first training course for Assistant Health Inspectors was started by Mr. G. V. Jinks the W. H. O. Public Health Sanitarian in October last year. The course was completed in December 1954 when the final examinations were held. 4 candidates attended the course and all of them passed the final examination.

## SECTION IV

*Maternity and Ante Natal Services*

1. There have been further increases in the number of admissions into the maternity ward of the Seychelles Hospital during the year under



review. Total number of deliveries during this year rose to 721 as against 606 in 1953. With the control of V. D. and the proximate return of the pioneers from overseas the admission into this department can be expected to increase and the available accommodation is already found to be insufficient. So the construction of a separate maternity block will have to be considered before long.

2. Dr. K. K. Kapadia continued to be in charge of the maternity department till the end of September when he proceeded on leave. His place was then taken by Dr. R. S. Francis who in turn was relieved by Dr. D. Távavia on 19. 12. 54.

3. Special antenatal clinics were held on Wednesdays and Thursdays in the Seychelles Hospital.

4. Baby welfare clinics were conducted as before on every Friday. Here the babies were weighed to check their progress and ignorant mothers were given instruction regarding the feeding and general care of infants.

5. The details of work carried out in this section of the Seychelles Hospital during the year are given in the following tables: —

#### A. Summary of work.

No. of admissions	721
Deliveries	598
Primi 162 — Multi	455
False labours	78
Babies born	512
(including 12 twins)	
Live babies	584
Male	320
Female	264
Premature babies	34
Still births	30
Macerated foeti	9
Maternal deaths	2
Infant deaths	13
Ophthalmia neonatorum	10

#### Venereal diseases.

Syphilis	K. R. 4 plus	19
	K. R. 3 plus	14
	K. R. 2 plus	20
		—
	Total	53

Gonorrhoea	21
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#### B. Abnormal pregnancies

Severe anaemia	4
Eclampsia	2
Pre-eclamptic toxæmia	15
Hydramnios	3
Other disorders associated with pregnancy	133
Miscarriage	7

#### C. Abnormal labours

Persistent Occ. Posterior	6
Prolapsed cord	2
Prolapsed hand	2
Breech presentation	23
Transverse "	3
Obstructed labour	2
Contraction ring	1
Ante partum hæmorrhage.	10
Placenta previa	6
Post partum hæmorrhage	
Severe	3
Moderate	4
Multiple pregnancy Twins	16

## D. Obstetric operations ;

Forceps delivery	5	Dilation & curetage	2
Failed forceps	2	Hysterectomy	1
Caesarian Section Classical	3	Perineorrhaphy	2
Lower segment	4	Colporrhaphy	2
Episiotomy	3	Colpo perineorrhaphy	1
Surgical induction of labour	4	Manual rotation of head	1
External versions	2	Manual removal of placenta	4

## E. Causes of baby deaths

Bronchopneumonia	1	Haemorrhagic diathesis of the	
Prematurity	8	new born	1
White asphyxia	2	Congenital deformity	1

3. *Ante Natal Clinic Victoria.*

First attendances	592
Repeat attendances	2061
Total	2653

7 *Baby clinic Victoria.*

First attendances	77
Repeat attendances	541
Total	618

*Post Natal clinic Victoria*

Total first attendance	150
------------------------	-----

*Maternity : other hospitals*

Hospital or clinic	Bay Ste Anne	La Digue	Anse Royale	Beoliers
Live Births	59	55	59	31
Still Births			2	1
Premature births			1	1
Complicated labour	1	1	—	—
Abortions	3	3	1	2

10. *Ante-natal clinic (other than in Victoria)*

	First attendance	Rpt. Attendance	Total
Bay Ste Anne	43	55	98
La Digue	48	127	175
Grand Anse Pralins	142	77	219
Anse Royale	217	669	786
Beoliere	47	215	262

## SECTION V.

*Laboratory.*

1. Mr. R. O. Lunn who is primarily the laboratory technician under the anti V. D. scheme was in charge of the laboratory. He was assisted by 2 laboratory assistants and a clerk. The senior assistant Mr. J. Rault was away from the Colony during the 2nd half of the year. Undergoing 6 months practical training in laboratory technology in Daressalaam and returned with wider experience in December.

2. Though there is not much difference in the total number of tests



and examinations carried out during 1954 compared with those of 1953 during this year the laboratory procedures of a time consuming type viz. water analysis and medico legal examinations have been performed in greater numbers.

3. The table below shows the different types of laboratory examinations carried out during the year.

		<i>Numbers</i>
A. <i>Microscopic.</i>		(Total) 9424
Skin (B. Leprae)	101	
Skin (Fungi)	1	
Faeces	5663	
Urines	343	
Sputa	390	
Pus	12	
Cerebrospinal fluids	22	
Pleural fluids	5	
Throat swabs	20	
Eye swabs	24	
Urethral smears	805	
Cervical smears	1941	
D. G. I.	45	
Trichomonas	4	
B. Ducrey	48	
B. <i>Bacteriology.</i>		(Total) 530
Faeces	152	
Urines ? B. Coli	56	
Urines ? T. B.	3	
Sputa ? Organisms	11	
Sputa ? T. B.	4	
Pus ? Organisms	20	
Pus ? T. B.	11	
Cerebrospinal fluids ? Organisms	4	
Cerebrospinal fluids ? T. B.	4	
Pleural fluids ? Organisms	1	
Pleural fluids ? T. B.	1	
Throat swabs	58	
Cervical swabs	30	
Eye swabs	29	
Blood	20	
Synovial	2	
Coagulase Tests	105	
C. <i>Haematology.</i>		(Total) 2282
Haemoglobine	690	
Red blood counts	532	
Bleeding time	2	
Coagulation rate	2	
Reticulocyte counts	5	

## Numbers

Sedimentation rate	257	
Blood grouping	74	
R. H. grouping	37	
White cell counts	418	
White cell differentials	383	
Malaria slides	24	
Filaria slides	3	
Fragility tests	2	
D. <i>Quantitative Biochemistry.</i>		(Total) 76
Blood	35	
Sugar	22	
Urea	3	
Calcium	9	
Van-dan-Berg	4	
Cholestrol	1	
Phosphatase acid	1	
Phosphatase alkaline	1	
Thymol turbidity		
<i>Cerebrospinal fluids.</i>		(Total) 95
Protein	23	
Chlorides	23	
Lange's test	3	
Glucose	23	
Globulin	23	
Crines		(Total) 2
Chloride estimation	1	
Diastase estimation	1	
Gastric contents		(Total) 168
Mucus	28	
Bile	28	
Starch	28	
Blood	28	
Free Hol	28	
Total Hol	28	
E. <i>Chemical examination.</i>		(Total) 1162
<i>Urines.</i>		
Albumin	434	
Phophyrin	1	
Sugar	475	
Sugar %	110	
Acetone	50	
Bile	58	
Blood	434	
Faeces		(Total) 5
Occult blood test	5	



## Number

F. *Medico-Legal.* (Total) 108

Post mortem	11
Blood stains	48
Seminal stains	4
Miscellaneous	45

G. *Histology.* (Total) 31

Tissue from mouth	2
Thyroid	3
Growth	2
Breast	5
Haemorrhage debris	2
Epitheloma of nose	2
Epitheloma of arm	1
Ulcers	3
Penis	3
Tumour	1
Placenta	1
Vaginal scrapings	2
Uterus	1
Biopsy of cervix	1
Cysts	2

H. *Serology.* (Total) 6031

Kahn tests (Blood)	5974
<i>Widals</i>	
B. Typhosum O.	7
B. Typhosum H.	7
B. Paratyphosum B.O.	7
B. Paratyphosum B.H.	7
Br. Abortus	7
(C. S. F.)	
Kahn tests	22

I. *Veterinary Work.* (Total) 34

Smears	34
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		Number
<i>J. Public Health.</i>		
<i>Water</i>		(Total) 1861
B. coli cultures of water		255
Citrate cultures of water		162
Glucose phosphate of water		162
Peptone water of water		162
Methyl red tests		162
Voyer-Proskarer tests		162
Indol tests		162
Microscopical examination of water		15
Hanging drop preparations		162
<i>Food</i>		
Preliminary cultures		6
Bacterial subcultures		40
Agglutination tests		16
Hanging drop preparations		16
<i>Ice cream</i>		(Total) 379
B. coli cultures		64
Citrate cultures		45
Glucose phosphate cultures		45
Peptone water		45
V — P tests		45
M — R tests		45
Indol tests		45
Hanging drop preparations		45
<i>K. General.</i>		

Maintenance and preparation of all sterile water, saline, glucose, emetine etc, and of blood transfusion apparatus was also carried out in the laboratory.

Total number of examinations done for the year ending 31st December 1954 — 22,129.

### Conclusion

1. The curative services of the department reached maximum efficiency during the year under review when compared with previous years. This was due to the presence of an experienced surgeon, an ophthalmologist a dermatologist and 2 dental surgeons on the staff.

2. This is the first year when no case of early and infectious type of syphilis was notified, thus showing that the anti V. D. scheme is producing the expected effect as far as syphilis is concerned. Though the incidence of gonorrhea shows no marked decrease, as a result of the increase in the scope of treatment of contracts, many hidden foci have come to light and have received treatment. Consequently, the complications of gonorrhoea have become fewer and several hitherto sterile women have delivered healthy babies.

3. The demand for maternity beds is increasing year after year and a point has now reached when it has become necessary to consider the provision of additional accommodation either by constructing a separate maternity block or at least by the addition of a wing to the existing maternity wards.



4. Attached to this report are 3 appendices. Appendix A is the report on the anti V. D. Scheme by the V. D. Medical Officer. The appendices B & C are the tables showing respectively the number of cases of various diseases seen and treated, and the causes of death which occurred during the year classified according to the international classification scheme.

5. Finally the writer has great pleasure to record his appreciation and thanks to all the members of the department for their willing co-operation and assistance for the accomplishment of the works recorded in this report.

P. M. JOSEPH,  
Director of Medical Services.

## REPORT OF THE VENEREAL DISEASE CONTROL SCHEME FOR 1954

by

D. KOPEL M. D. (Basle)

### Staff

*Physician-in-Charge* — Dr. D. Kopel arrived in the Seychelles on the 10th of January, 1954.

*Laboratory Technician* — Mr. R. O. Lunn A.I.M.L.T. continued throughout the year.

*Laboratory Assistant* — Mr. H. Soleil continued throughout the year.

*Clerk* — Mrs. M. Pillieron continued throughout the year.

*Nurse* — Miss P. Estico resigned on the 15th March, 1954, Mrs. D. Belle replaced her on the same.

*Senior Health Visitors* — Mrs. N. Soomessur left the Colony on the 18th August, 1954, on termination on her contract. The post has been abolished since.

*Health Visitors* — Mrs. N. Mathiot, assigned to Victoria, Central and North Mahé, was granted three months maternity leave on the 9th November, 1954.

Staff-nurse Mrs. H. Albest was recruited on the 15th July, 1954 and after a period of training and a two months tour in Praslin and La Digue took over from Mrs. Mathiot the Districts of Victoria, Central and North Mahé.

Mrs. D. Houareau, assigned to South Mahé continued throughout the year.

*Driver* — Mr. Ph. Lalanne continued throughout the year both in this capacity and as a health visitor.

Regarding personnel it must be stated that the lack of suitable candidates for health visitors is a serious handicap under which the scheme has been suffering all along.

### Working Arrangement

The Scheme has been functioning on six days a week during normal hours.

Daily out-patient clinics and two special afternoon clinics a week have been held at the Seychelles Hospital in Victoria. Weekly and later fortnightly clinics have been held at the Anse Royale Cottage Hospital and the Beolière Dispensary.



At the Cottage Hospital in Praslin and the Dispensary in La Digue the anti-venereal work has been conducted by Dr. P. B. W. Price M. B. (Calcutta), M. O in charge there.

No special facilities of hospitalization were available and the in-patients' treatment has been carried out in the general wards.

### Work Done

The work done in 1954 is summarised in the appended tables.

In 1954 the overall figure of persons treated for Venereal Disease among a total estimated population of 38,634 in the Seychelles was 2,488, 1,138 males and 1,331 females, 6.4, 2.9 and 3.4% respectively, as compared with a total number of 1,279, 928 males and 334 females, 3.4, 2.4 and 0.8% respectively, in 1953 and a total of 1,461, 3.9%, in 1952, separate figures for males and females not being available for that year (Table I).

#### *Syphilis*

In 1954 a total number of 400 new positive Kahn Reaction cases, practically all without physical signs and symptoms of Syphilis, 161 males, 220 females and 18 children, 1, 0.4, 0.59 and 0.04% respectively, were found by routine serum testing (Tables I and II).

The Syphilis figures for 1953 were 271 total, 161 males, 110 females and 4 children, 0.7, 0.4, 0.28 and 0.01% respectively, and a total of 534, 1.4%, in 1952, separate figures for the sexes not being available for that year (Table I).

These otherwise asymptomatic Kahn-plus cases have been given the benefit of treatment with 6,000,000 units of Distaquaine (procaine benzylpenicillin in aqueous suspension) administered in ten equally divided daily doses.

The irrational and costly practice to repeat such courses at frequent intervals in the vain hope of achieving serological reversal in Late Latent Syphilis, that is more than four years after contracting the infection, as well as in Late (Tertiary) Syphilis in which sero-resistance after adequate treatment is so common that only some 20 to 40% become sero-negative after five years, has been discontinued.

Since prophylaxis concerns chiefly Early Syphilis, entirely absent in 1954, attention has been directed to prenatal examination and treatment of prospective mothers with positive Kahn in the first instance for the purpose of foetal protection against the possibility of Syphilis as a part of the routine antenatal care.

In 1954 the percentages of positive reactions among the two groups subjected to routine serological screening at the Seychelles Hospital in Victoria, namely pregnant women and labourers proceeding to the out-lying islands, were 14.4% for the former group and 40.7% for male and 40% for females of the latter group as against 26.2% for males and 62.5% for females of the public at large (Table III).

The percentages of positive Kahn Reactions 1952-53 for pregnant women were 11.1% and 5% respectively. Comparative percentages for labourers are not available in respect of 1952-53. The percentages of Kahn Reactions in 1952-53 were 20.68% and 18.1% respectively.

#### *Gonorrhoea*

In 1954 a total of 2,048 persons, including patients and contacts, 958 males and 1,090 females, 5.3, 2.4, and 2.8% respectively, were treated for Gonorrhoea. Gonorrhoea contacts numbered 1,118, 266 males and 852 females, 2.9, 0.6 and 2.1% respectively (Tables I, IV, V and VI).



Compared therewith, in 1953 the overall figure for Gonorrhea was 983, 745 males, 221 females and 17 children, 2.6, 1.9, 0.5 and 0.40% respectively, and in 1952, 972, 644 males and 283 females, 2.4, 1.7 and 0.7% respectively (Table I).

Comparative figures with regard to Gonorrhea contacts are not available for the previous years.

The unwarranted and wasteful practice of administering as large a dose as 1,800,000 units Distaquaine for uncomplicated male Gonorrhoea, especially here where re-infection is commonplace, has been stopped.

In man, the one-shot dose of 600,000 units Distaquaine has proved entirely adequate, recurrences being practically throughout by re-infections.

In women, with the view to sterilisation of the very extensive female reservoir of infection that has its source in the chronic affection of the cervix and fallopian tubes, three daily doses of 600,000 units of Distaquaine have been retained.

Voluntary routine examination and prophylactic treatment of prostitutes has been encouraged but met with no approval of the ladies concerned.

The desirability of this preventive measure that has gained all the importance it deserves since the realisation of long-range repository penicillin preparations, and of an appropriate enactment to this effect to provide free compulsory preventive treatment, have been propounded by the writer in his memorandum of the 22nd October, 1954, and at the meeting of the Executive Council on the 9th December, 1954.

The recorded figures are no more than a rough indication of the prevalence of the disease. The comparative increase with previous years is not to be regarded as an actual raise in incidence but as evidence of a more intensive effort in the difficult task of case and contact finding.

The work carried out in 1954 yielded an increase of more than 100% in comparison with the total number of Gonorrhoea cases in 1953 and a 500% increase in the number of women treated in that year. For each male patient treated, there was one and a quarter female contact treated, and for each female patient treated there was one male contact treated as a rule simultaneously. The lion's share of this work fell on the main V. D. Clinic in Victoria.

Gonorrhoea has remained a prevalent disease owing to the widespread promiscuity and prostitution, and the continuous "ping-pong" re-infection after treatment by contracting the original infection back again from the untreated or not simultaneously treated sex partners.

The writer's impression regarding the thorny problem of Gonorrhoea is by no means a too pessimistic one though this is not born out by the figures. Sustained effort and collaboration of all concerned are, however, the condition sine qua non.

### *Chancroid*

In 1954, 40 cases of Chancroid, 19 males and 21 females, 0.1, 0.04 and 0.05% respectively (Tables I and VII), were treated with sulphadiazine usually 20 g. by mouth and application of powder locally for five days.

The comparative figures Chancroid in 1953 were 25 total number, 22 males and 3 females, 0.06 0.05 and 0.007% respectively. Records of Chancroid for 1952 are not available (Table I)

There was a minor outbreak of Chancroid in October and November coinciding with the presence of R. P. C. personnel on leave. This was soon brought under control by vigorous contact tracing and treatment of all suspects.



### *Contact Tracing*

Since a mass-treatment campaign is not envisaged, the writer has striven at intensive case and contact finding as the second most important means of V. D. control.

In cases of Gonorrhoea and Chancroid utmost effort has been made to bring all the known and suspected sex contacts of the patients' wider social circles simultaneously to treatment.

With no infectious early Syphilis, prophylaxis has been practically confined to treatment of pregnant women with positive Kahn Reactions.

A contact and family investigation form suited to the local requirements has been designed and put into operation by the writer.

A register of prostitutes has been founded.

### **Other Activities**

#### *Laboratory Procedure*

In view of the necessity of periodical checks of serological reagents and techniques, arrangements have been made with the Medical Research Laboratory in Nairobi for the performance of this control in 1955.

The adoption of a quantitative serological test has not been possible.

The lack of such procedure precludes the assessment of the serological progress especially in Latent and Late Syphilis the serological control of which can be only gauged quantitatively.

In Late Latent Syphilis serological tests are the only available diagnostic means, the exclusion of biological false positive reactions being solely possible with the help of the quantitative technique.

The introduction of routine examination of the cerebrospinal fluid and radiography of the heart and aorta, necessary for the early diagnosis of Neurosyphilis and Cardiovascular Syphilis, has been also not possible for technical reasons.

#### *Organisation*

Suggestions for a complete reorganisation of the present contact investigation and its integration into the general public-health service, i. e. case and contact finding and follow-up work to be undertaken by public-health officers to assure strict secrecy and inconspicuous tracing of contacts, have been made by the writer and brought up at the Executive Council's session on the 9th December, 1954.

#### *Legislation*

A radical revision of the V. D. Ordinance 1952 has been also proposed by the writer at the above council's meeting with the object of converting this bill into an effective instrument of control in the fight against the spread of venereal diseases, prostitution, sexual offence against minors and the agencies of procuration.

The introduction of compulsory premarital health certification has been advocated.

Attention has been drawn to the necessity of dealing with the difficult social and medical problem of prostitution.



TABLE I — Total Numbers of V. D. Cases by Sex and Year.

		T = both sexes		M = males		F = females					
		Syphilis				Gonorrhoea		Chancroid		Totals	
		T	M	F	T	M	F	T	M	F	T
1954	400"	161	220	2048'''	1090	40	19	21+	2488	1138	1331
1953	271	161	110	983†	221	25	22	3	1279	928	334
1952	534			927	644	283			1461		

" With the exception of one case of Cardiovascular Syphilis discovered in Victoria, one case of Gumma and one of Neurosyphilis reported from Prasin, the figure consists entirely of cases presenting no signs or symptoms of the disease apart from a positive quantitative Kahn Reaction discovered by routine serological screening, and classified as Late Latent Syphilis.

Plus 19 children.

" " Including 21 children.

+ The figure consists entirely of contacts.

+ Including 17 children.

TABLE II—Number of Positive Khan Reaction Cases by Sex, Locality and Month During 1954.

Months	T = both sexes			M = males			F = females			C = Children		
	Victoria Central & North Mahé			South Mahé			Praslin & La Digue			Total		
	T	M	F	C	T	M	F	C	T	M	F	C
January	16	9	6	1	3	0	3	—	22	10	11	1
February	27	13	11	3	4	2	2	1	40	19	17	4
March	23	12	10	1	7	3	4	—	34	15	18	1
April	2	2	—	—	6	4	2	—	11	6	5	—
May	26	11	12	3	8	5	3	1	38	16	18	4
June	35	19	13	3	13	5	7	—	48	24	20	4
July	18	9	7	2	4	2	1	—	24	11	10	3
August	31	18	13	—	8	5	3	—	45	25	20	—
September	20	11	8	1	11	3	8	—	37	15	21	1
October	7	5	2	—	2	1	1	—	11	7	4	—
November	7	4	2	1	4	2	2	—	13	6	6	1
December	3	2	1	—	4	2	4	—	14	7	7	—
Totals	215	115"	85	15	74	34	34	2	400*	161	220*	19

" Only one case of Cardiovascular Syphilis.

" " Only one case of Gumma and one case of Neurosyphilis recorded.

\* 63 positive Kahan Reaction cases from the Antenatal Clinic added.



TABLE — III    Number of Kahn Reactions Performed and Numbers and Percentages of Positive Tests  
at the Victoria Clinic During 1954.

T = both sexes    M = males    F = females

	Pregnant Women			Labourer Proceeding to Outlying Islands			Public at Large			Totals		
	T	M	F	T	M	F	T	M	F	T	M	F
Numbers of Persons Subjected to Kahn Reaction (KR)	587	265	179	86	2024	1607	417	2876	1786	1090		
Numbers of KR's found positive	85	108	73	35	731	462	269	924	535	389		
% KR—Positive	14.4	40.7	42.1	40.6	36.1	26.2	64.5	35.6	29.9	35.6		

TABLE IV—Total Numbers of Gonorrhoea Patients and Contacts by Sex and Locality during 1954.

T = both sexes		M = males		F = females		+ = smear-positive		— = smear-negative					

" Smear-negative cases were neither recorded nor treated in Praslin and La Digue.

" Including 7 children.

+ Including 8 children.

+ Including 1 child.

§ Including 4 children.



TABLE V — Numbers of Gonorrhoea Patient by Sex, Locality and Month During 1954.

Months	Victoria Central & North Mahé										South Mahé					Praslin & La Digue					Totals																													
	T					M plus					F plus					T					M plus					F plus					T					M plus					F plus									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									
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	Plus = smear-positive										Plus = smear-negative										T = both sexes										M = males										F = females									

" Smear-negative case were neither recorded nor treated in Praslin and La Digue  
 "" Including 7 children.  
 † Including 8 children.  
 †† Including 1 child.  
 ‡ Including 4 children.

**TABLE VI — Numbers of Gonorrhoea Contacts by Sex, Locality and Month during 1954.**

Months	Victoria, Central & North Mahé			South Mahé			Praslin & La Digue			Totals		
	T	M	plus	T	M	plus	T	M	plus	T	M	plus
January	60	18	11	7	4	—	3	—	—	2	—	—
February	40	12	7	5	23	—	4	—	—	2	2	—
March	54	17	10	7	37	—	8	—	—	2	23	—
April	57	15	9	6	42	—	14	—	—	2	2	—
May	74	14	9	5	60	2	6	—	—	3	3	—
June	79	15	8	7	64	—	3	—	—	10	10	—
July	55	12	10	2	43	—	2	—	—	5	5	—
August	69	19	11	8	50	2	11	—	—	6	6	—
September	95	31	18	13	64	1	5	—	—	5	5	—
October	167	23	10	13	144	—	5	—	—	2	2	—
November	112	33	27	6	79	4	4	—	—	6	6	—
December	68	15	5	10	53	8	11	—	—	3	3	—
Totals	930	224	135	89	706	170	76	15	60	88	18	70

" Smear-negative cases were neither recorded nor treated in Praslin and La Digue.





## APPENDIX B.

**Total number of cases of individual diseases diagnosed  
and treated in 1954.**

<i>Diseases</i>	<i>Numbers</i>
Typhoid fever	—
Paratyphoid fevers	—
Meningitis	—
Scarlet fever	—
Whooping cough	372
Diphtheria	1
Tetanus	7
Tuberculosis (pulmonary)	43
(others)	13
Leprosy	3
Dysentery (bacillary)	—
(amoebic)	416
(others)	206
(unspecified)	30
Diarrhoea and Enteritis	841
Malaria (undefined)	2
Other protozoal diseases	15
Syphilis : Primary and Secondary	—
Tertiary	29
Congenital	1
Gonorrhoea	979
Influenza : Complicated	—
Uncomplicated	512
Measles	2
Chickenpox	9
Poliomyelitis	—
Ankylostomiasis	831
Other helminthic diseases	2286
Filiarasis	—
Other infective or parasitic diseases	74
Abscess of liver	9
Other diseases of liver	441
Malignant tumours	43
Non-Malignant tumours	19
Unspecified tumours	30
Rheumatic conditions	608
Diabetes	11
Disease of Endocrine Glands	44
Other Vitamin Deficiency diseases	23
Disease of blood and blood forming organs	430
Poisoning — Alcoholic	—
Other	5
Mental diseases	7
Diseases of the eye	289
Diseases of the ear and mastoid sinus	322
Diseases of the nervous system	120
Heart diseases	200
Other diseases of the circulatory system	157
Bronchitis (acute)	1033
(chronic)	427



## APPENDIX B.—(Contd.)

<i>Diseases</i>	<i>Numbers</i>
Pneumonia (broncho)	133
(lobar)	78
(unspecified)	16
Other diseases of the respiratory system	694
Nephritis (acute)	—
(chronic)	—
Other non-venereal diseases of the genito- urinary system	822
Abortions	44
Taxaemias of pregnancy	9
Other conditions of the puerperium	1
Ulcers (unspecified)	52
Other skin diseases	895
Diseases of the bones etc.	79
Congenital malformations	1
Congenital debility	—
Premature birth	2
Injury at birth	—
Other conditions	—
Senility	104
External causes :	
Homicide	—
Suicide	—
Other causes	773
Ill defined causes	344
Other causes	4163
Other diseases of the digestive system	224

# APPENDIX C.

## CAUSES OF DEATH 1954.

Cause Groups Detailed List Numbers

A	1	Tuberculosis of respiratory system	001—008	34
A	4	Tuberculosis of bones and joints	012,013	1
A	5	Tuberculosis, all other forms	014—019	3
A	6	Congenital syphilis	020	2
A	10	All others syphilis	022,023,026—029	4
A	16	Dysentery, all forms	045—048	8
A	20	Septicaemia and pyaemia	053	2
A	22	Whooping cough	056	7
A	25	Leprosy	060	4
A	26	Tentanus	061	4
A	34	Infectious hepatitis	092	3
A	41	Ankylostomiasis	129	2
A	43	All other diseases classified as infective and parasitic	036—039,049,054,059,063—074,093,095,096—120—122,131	1
			--138	
A	44	Malignant neoplasm of buccal cavity and pharynx	140—148	1
A	45	Malignant neoplasm of oesophagus	150	1
A	46	Malignant neoplasm stomach	151	2
A	47	Malignant neoplasm of intestine, except rectum	152, 153	4
A	48	Malignant neoplasm of rectum	154	1
A	50	Malignant neoplasm of trachea, and of bronchus and lung not specified	162, 163	1
A	51	Malignant neoplasm of breast	170	4
A	52	Malignant neoplasm of cervix uteri	171	3
A	53	Malignant neoplasm of other and unspecified parts of uterus	172—174	3
A	57	Malignant neoplasm of all other and unspecified sites	155—160,164,165,175,176,178—181,192—195,198,199	1
A	58	Leukemia and aleukemia	204	11
A	60	Benign neoplasms and neoplasms of unspecified nature	210—239	1
A	63	Diabetes mellitus	260	1
A	64	Avitaminosis and other deficiency states	280—286	2
A	65	Anaemias	290—293	7
				25



## APPENDIX C. (Contd.)

Cause Groups		Detailed list numbers		
A	66	Allergic disorders; all other endocrine metabolic and blood diseases	240 — 245, 253, 254, 270 — 277, 287 — 289, 294 — 299	5
A	68	Psycho neuroses and disorders of personality	310 — 324, 326	1
A	70	Vascular lesions affecting central nervous system	330 — 334	23
A	71	Nonmeningococcal meningitis	340	2
A	73	Epilepsy	353	4
A	78	All other diseases of the nervous system and sense organs	341 — 344, 350 — 352, 354 — 369, 380 — 354, 386, 388 — 390, 394 — 398	10
A	81	Arteriosclerotic and degenerative heart disease	420 — 422	18
A	82	Other diseases of heart	430 — 434	1
A	83	Hypertension with heart disease	440 — 443	2
A	84	Hypertension without mention of heart	444 — 447	2
A	86	Other diseases of circulatory system	460 — 468	2
A	89	Lobar pneumonia	490	3
A	90	Bronchopneumonia	491	20
A	93	Bronchitis, chronic and unqualified	501, 502	10
A	97	All other respiratory diseases	511 — 517, 520, 522 — 527	4
A	101	Gastritis and duodenitis	543	1
A	103	Intestinal obstruction and hernia	560, 561, 570	2
A	104	Gastro enteritis and colitis, except diarrhoea of the new born	571, 572	16
A	105	Cirrhosis of liver	581	3
A	107	Other diseases of digestive system	536 — 539, 542, 544, 545, 573 — 580, 582, 583, 586, 587	6
A	109	Chronic, other and unspecified nephritis	591 — 594	1
A	114	Other diseases of genito urinary system	601, 603, 605 — 609, 611 — 617, 622 — 637	1
A	116	Toxaemias of pregnancy and the puerperium	642, 652, 685, 686	1
A	117	Haemorrhage of pregnancy & childbirth	643, 644, 670 — 672	1
A	122	Arthritis and spondylitis	720 — 725	1
A	124	Os teomyelitis and periostitis	730	1
A	126	All other diseases of skin and musculoskeletal system	700 — 716, 731 — 736, 738 — 744	2
A	128	Congenital malformations of circulatory system	754	1

# APPENDIX C.

Cause Groups		Detailed list numbers	
A	129	All other congenital malformations	
A	130	Birth injuries	750, 752, 753, 755 — 759
A	131	Postnatal asphyxia and atelectasis	760, 761
A	134	All other defined diseases or early infancy	762
A	135	Ill-defined diseases peculiar to early infancy, and immaturity unqualified	769, 771, 772
A	136	Senility without mention of psychosis	773 — 776
A	137	Ill defined and unknown causes of morbidity and mortality	794
AN	138	Fracture of skull	780 — 783, 795
AN	139	Fracture of spine and trunk	N800 — N804
AN	143	Head injury (excluding fracture)	N805 ? N809
AN	148	Burns	N940 — N949
AN	150	All other and unspecified effects of external causes	N940 — N949
			N950 — N959, N980 — N999
Total			456



